
CHAPTER 4

THE ITIL SERVICE VALUE SYSTEM

4 The ITIL service valuesystem

4.1 Service value system overview

For service management to function properly, it needs to work as a **system**. The ITIL SVS describes the **inputs** to this system (opportunity and demand), the **elements** of this system (organizational governance, service management, continual improvement, and the organization's capabilities and resources), and the **outputs** (achievement of organizational objectives and value for the organization, its customers, and other stakeholders).



Key message

The ITIL SVS describes how all the **components** and **activities** of the organization **work together** as a **system** to enable value creation. Each organization's SVS has **interfaces** with other organizations, forming an **ecosystem** that can in turn facilitate value for those organizations, their customers, and other stakeholders.

The key inputs to the SVS are **opportunity** and **demand**. Opportunities represent **options** or **possibilities** to add value for stakeholders or otherwise **improve** the organization. Demand is the **need or desire for products and services** among internal and external consumers. The outcome of the SVS is **value**, that is, the perceived benefits, usefulness, and importance of something. The ITIL SVS can enable the creation of many different types of value for a wide group of stakeholders.

The ITIL SVS includes the following **components**:

- **Guiding principles** Recommendations that can **guide** an organization in **all** circumstances, regardless of changes in its goals, strategies, type of work, or management structure.
- **Governance** The means by which an organization is **directed** and **controlled**.
- **Service value chain** A set of interconnected activities that an organization performs to deliver a valuable product or service to its consumers and to

facilitate value realization.

- **Practices** Sets of organizational resources designed for performing work or accomplishing an objective.
- **Continual improvement** A recurring organizational activity performed at all levels to ensure that an organization's performance continually meets stakeholders' expectations. ITIL 4 supports continual improvement with the ITIL continual improvement model.

The purpose of the SVS is to ensure that the organization continually co-creates value with all stakeholders through the use and management of products and services. The structure of the SVS is shown in Figure 4.1. The left side of the figure shows opportunity and demand feeding into the SVS from both internal and external sources. The right side shows value created for the organization, its customers, and other stakeholders.

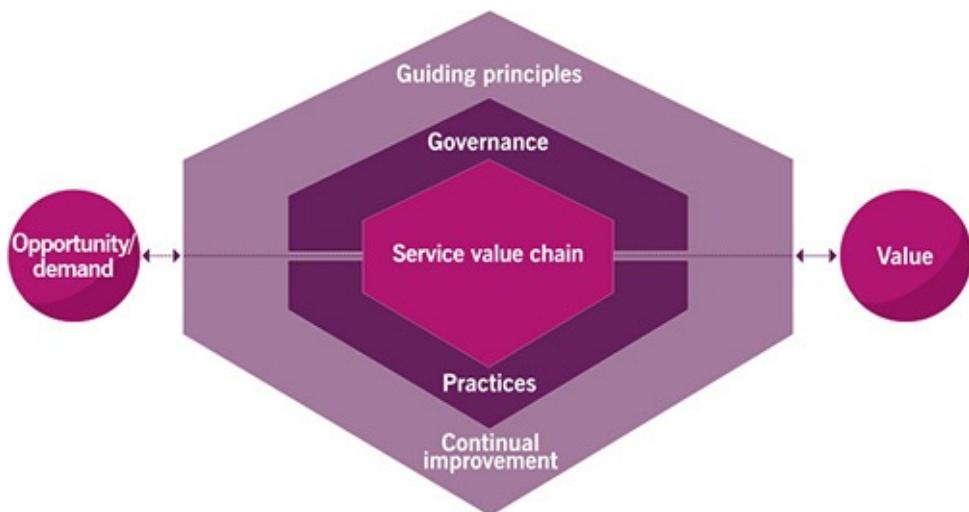


Figure 4.1 The ITIL service value system

The ITIL SVS describes how all the components and activities of the organization work together as a system to enable value creation. These components and activities, together with the organization's resources, can be configured and reconfigured in multiple combinations in a flexible way as circumstances change, but this requires the integration and coordination of activities, practices, teams, authorities and responsibilities, and all parties to be truly effective.

One of the biggest challenges an organization can face when trying to work effectively and efficiently with a shared vision, or to become more Agile and resilient, is the presence of organizational silos. Organizational silos can form in many ways and for many different reasons. Silos can be resistant to change and can prevent easy access to the information and specialized expertise that exists across the organization, which can in turn reduce efficiency and increase both cost and risk. Silos also make it more difficult for communication or collaboration to occur across different groups.

A siloed organization cannot act quickly to take advantage of opportunities or to optimize the use of resources across the organization. It is often unable to make effective decisions about changes, due to limited visibility and many hidden agendas. Practices can also become silos. Many organizations have implemented practices such as organizational change management or incident management without clear interfaces with other practices. All practices should have multiple interfaces with one another. The exchange of information between practices should be triggered at key points in the workflow, and is essential to the proper functioning of the organization.

The architecture of the ITIL SVS specifically enables flexibility and discourages siloed working. The service value chain activities and the practices in the SVS do not form a fixed, rigid structure. Rather, they can be combined in multiple value streams to address the needs of the organization in a variety of scenarios. This publication provides examples of service value streams, but none of them are definite or prescriptive. Organizations should be able to define and redefine their value streams in a flexible, yet safe and efficient manner. This requires continual improvement activity to be carried out at all levels of the organization; the ITIL continual improvement model helps to structure this activity. Finally, the continual improvement and overall operation of an organization are shaped by the ITIL guiding principles. The guiding principles create a foundation for a shared culture across the organization, thus supporting collaboration and cooperation within and between the teams, and removing the need for constraints and controls previously provided by silos.

With these components, the ITIL SVS supports many work approaches, such as Agile, DevOps and Lean (see Glossary), as well as traditional process and project management, with a flexible value-oriented operating model.

An organization can take any number of forms, including, but not limited to, sole trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or any part or combination thereof, whether incorporated or not, and be either public or private. This means that the scope of the SVS can be a whole organization or a smaller subset of that organization. To achieve the maximum value from the SVS and to properly address the issue of organizational silos, it is preferable to include the whole organization in the scope rather than a subset.

The rest of this chapter will explore each element of the SVS.

Organizational agility and organizational resilience

For an organization to be successful, it must achieve organizational agility to support internal changes, and organizational resilience to withstand and even thrive in changing external circumstances. The organization must also be considered as part of a larger ecosystem of organizations, all delivering,

coordinating, and consuming products and services.

Organizational agility is the ability of an organization to move and adapt quickly, flexibly, and decisively to support internal changes. These might include changes to the scope of the organization, mergers and acquisitions, changing organizational practices, or technologies requiring different skills or organizational structure and changes to relationships with partners and suppliers.

Organizational resilience is the ability of an organization to anticipate, prepare for, respond to, and adapt to both incremental changes and sudden disruptions from an external perspective. External influences could be political, economic, social, technological, legal or environmental. Resilience cannot be achieved without a common understanding of the organization's priorities and objectives, which sets the direction and promotes alignment even as external circumstances change.

The ITIL SVS provides the means to achieve organizational agility and resilience and to facilitate the adoption of a strong unified direction, focused on value and understood by everyone in the organization. It also enables continual improvement throughout the organization.

4.2 Opportunity, demand, and value



Key message

Opportunity and demand trigger activities within the ITIL SVS, and these activities lead to the creation of value. Opportunity and demand are always entering into the system, but the organization does not automatically accept all opportunities or satisfy all demand.

Opportunity represents options or possibilities to add value for stakeholders or otherwise improve the organization. There may not be demand for these opportunities yet, but they can still trigger work within the system. Organizations should prioritize new or changed services with opportunities for improvement to ensure their resources are correctly allocated.

Demand represents the need or desire for products and services from internal and

external customers. A definition of value, and what constitutes value for different stakeholders, can be found in Chapter 2.

4.3 The ITIL guiding principles



Key message

A guiding principle is a recommendation that guides an organization in all circumstances, regardless of changes in its goals, strategies, type of work, or management structure. A guiding principle is universal and enduring.

Table 4.1 Overview of the guiding principles

Guiding principle	Description
Focus on value	<p>Everything that the organization does needs to map, directly or indirectly, to value for the stakeholders.</p> <p>The focus on value principle encompasses many perspectives, including the experience of customers and users.</p>
Start where you are	<p>Do not start from scratch and build something new without considering what is already available to be leveraged. There is likely to be a great deal in the current services, processes, programmes, projects, and people that can be used to create the desired outcome.</p> <p>The current state should be investigated and observed directly to make sure it is fully understood.</p>
Progress iteratively with feedback	<p>Do not attempt to do everything at once. Even huge initiatives must be accomplished iteratively.</p> <p>By organizing work into smaller, manageable sections that can be executed and completed in a timely manner, it is easier to maintain a sharper focus on each effort.</p> <p>Using feedback before, throughout, and after each iteration will ensure that actions are focused and appropriate, even if circumstances change.</p>
Collaborate and promote visibility	<p>Working together across boundaries produces results that have greater buy-in, more relevance to objectives, and increased likelihood of long-term success.</p> <p>Achieving objectives requires information, understanding, and trust. Work and consequences should be made visible, hidden agendas avoided, and information shared to the greatest degree possible.</p>
Think and work holistically	<p>No service, or element used to provide a service, stands alone. The outcomes achieved by the service provider and service consumer will suffer unless the organization works on the service as a whole, not just on its parts.</p> <p>Results are delivered to internal and external customers through the effective and efficient management and dynamic integration of information, technology, organization, people, practices, partners, and agreements, which should all be coordinated to provide a defined value.</p>

Keep it simple and practical	If a process, service, action or metric fails to provide value or produce a useful outcome, eliminate it. In a process or procedure, use the minimum number of steps necessary to accomplish the objective(s). Always use outcome-based thinking to produce practical solutions that deliver results.
Optimize and automate	Resources of all types, particularly HR, should be used to their best effect. Eliminate anything that is truly wasteful and use technology to achieve whatever it is capable of. Human intervention should only happen where it really contributes value.

The guiding principles defined here embody the core messages of ITIL and of service management in general, supporting successful actions and good decisions of all types and at all levels. They can be used to guide organizations in their work as they adopt a service management approach and adapt ITIL guidance to their own specific needs and circumstances. The guiding principles encourage and support organizations in continual improvement at all levels.

These principles are also reflected in many other frameworks, methods, standards, philosophies, and/or bodies of knowledge, such as Lean, Agile, DevOps, and COBIT. This allows organizations to effectively integrate the use of multiple methods into an overall approach to service management.

The guiding principles are applicable to practically any initiative and to all relationships with stakeholder groups. For example, the first principle, focus on value, can (and should) be applied not only to service consumers, but to all relevant stakeholders and their respective definitions of value.

Table 4.1 provides a high-level introduction to the guiding principles. Additional details for each principle are presented later in this chapter.

ITIL, Agile, and DevOps

Agile methods, when applied to software development, focus on the delivery of incremental changes to software products while responding to the changing (or evolving) needs of users. They foster a culture of continual learning, flexibility, and willingness to try new approaches and adapt to rapidly changing needs. Agile ways of working include techniques such as timeboxing work, self-organizing and cross-functional teams, and ongoing collaboration and communication with customers and users.

Agile software development teams often focus on the rapid delivery of product increments at the expense of a more holistic view that considers the operability, reliability, and maintainability of these products in a live environment. Similarly, continual learning and improvement initiatives can focus on bettering the articulation and prioritization of user needs, or streamlining the procedures to develop, test, and deploy working software. While these initiatives can provide valuable outcomes, they also run the risk of being out of sync with other initiatives at a service level.

Just as Agile techniques provide service organizations with a flow of product and software increments, ITIL can also provide software development organizations with a wider perspective and language with which to engage other service teams. Adopting Agile without ITIL can lead to higher costs over time, such as the costs of adopting different technologies and architectures, and costs to release, operate, and maintain software increments. Similarly, implementing ITIL without Agile techniques can risk losing focus on value for customers and users, creating slow-moving and highly centralized bureaucracies.

When Agile and ITIL are adopted together, software development and service management can progress at a similar cadence, share a common terminology, and ensure that the organization continues to co-create value with all its stakeholders. Some of the ways in which ITIL and Agile can work together include:

- streamlining practices such as change control
- establishing procedures to incorporate and prioritize the management of unplanned interruptions (incidents), and to investigate the causes of failure
- separating interactions, if necessary, between ‘systems of record’ (e.g. the configuration management database) needed to manage services from ‘systems of engagement’ (e.g. collaboration tools) used by software development teams.

DevOps methods build on Agile software development and service management techniques by emphasizing close collaboration between the roles of software development and technical operations. Using high degrees of automation to free up the time of skilled professionals so that they can focus on value-adding activities, DevOps is able to shine a light on aspects such as operability, reliability, and maintainability of software products that can assist in the management of services. Cultural aspects that DevOps practitioners advocate can, and should, be extended across the value stream and all service value chain activities so that product and service teams are aligned with the same goals and use the same methods.

It is often said that DevOps combines software development techniques (Agile), good governance and a holistic approach to value co-creation (ITIL), and an obsession with learning about and improving the way in which value is generated (Lean). As such, the adoption of DevOps methods presents further opportunities to improve the way in which software products are developed and managed, such as:

- creating fast feedback loops from delivery and support to software development and technology operations
- streamlining value chain activities and value streams so that demand for

- work can be quickly converted to value for multiple stakeholders
- differentiating deployment management from release management
- advocating a ‘systems view’ that emphasizes close collaboration between enterprise governance, service teams, software development, and technology operations.

4.3.1 Focus on value



Key message

All activities conducted by the organization should link back, directly or indirectly, to value for itself, its customers, and other stakeholders.

This section is mostly focused on the creation of value for service consumers. However, a service also contributes to value for the organization and other stakeholders. This value may come in various forms, such as revenue, customer loyalty, lower cost, or growth opportunities. The following recommendations can be adapted to address various stakeholder groups and the value that is created for them by the organization.

4.3.1.1 Who is the service consumer?

When focusing on value, the first step is to know who is being served. In each situation the service provider must, therefore, determine who the service consumer is and who the key stakeholders are (for example, customers, users, or sponsors; see section 2.2 for more details). In doing this, the service provider should consider who will receive value from what is being delivered or improved.

The ITIL story: Axle’s new technology

Axle is considering introducing several pieces of new technology into their cars. In the following sections the Axle team looks at what new technology could be introduced and uses the ITIL guiding principles to help decide on the best course of action.

Su: *One aspect of our service we are considering is the collection and return of*



vehicles. This process remains very manual. Some of our regional depots continue to use paper-based forms to register customers. Customers don't want to waste time completing forms for identification when this information has already been provided during the online booking process.

To improve the customer identification process, Axle could use biometric technology to identify our customers.



Marco: Biometric technology uses scanned graphical data for personal identification. It's fast and reliable, and widely used in other industries. For example, the airline industry is using it for security screening, check-in, and even for aircraft boarding. We could use fingerprint or facial recognition scans to quickly identify our customers, and automate the car collection and return process.



Radhika: We need to be mindful of regulations such as GDPR and the possible risks to data security this technology could bring.



Marco: Axle also wants to trial automated identification of damage to returned vehicles, including scratches, dents, and broken lights. Potentially the technology could even identify fuel levels. This would automate the calculation of any fuel charges incurred by our customers, which is also a manual process.



Su: Our customers want simplicity and speed while maintaining comfort and safety on the road. Biometric technology and car scanning would be a source of opportunity to meet evolving customer demands.



Marco: Our services already rely on technology, and the intelligence of smartphones and personal devices to meet customer needs and expectations. The adoption of biometric technology is a natural progression. Anyone who can access their phone with a thumbprint or facial recognition will be comfortable and confident using the same technology to collect or return a car.



Henri: We can't make the mistake of trying to implement every innovation at once, even if they all sound like the ideal solution for Axle Car Hire. We need a framework in place to make sure value is realized, and to govern our decisions. It's also important that none of our existing customers are disadvantaged, even as we venture into new surroundings. For example, not all our customers are tech-savvy. This is especially true for our elderly customers, who represent a large percentage of our customer base for leisure travel. We also need to balance innovation with existing operational demands.

4.3.1.2 The consumer's perspectives of value

Next the service provider must understand what is truly of value to the service

consumer. The service provider needs to know:

- why the consumer uses the services
- what the services help them to do
- how the services help them achieve their goals
- the role of cost/financial consequences for the service consumer
- the risks involved for the service consumer.

Value can come in many forms, such as increased productivity, reduced negative impact, reduced costs, the ability to pursue new markets, or a better competitive position. Value for the service consumer:

- is defined by their own needs
- is achieved through the support of intended outcomes and optimization of the service consumer's costs and risks
- changes over time and in different circumstances.

4.3.1.3 The customer experience

An important element of value is the experience that service consumers have when they interact with the service and the service provider. This is frequently called customer experience (CX) or user experience (UX) depending on the adopted definitions, and it must be actively managed.

CX can be defined as the entirety of the interactions a customer has with an organization and its products. This experience can determine how the customer feels about the organization and its products and services.

CX is both objective and subjective. For example, when a customer orders a product and receives what they ordered at the promised price and in the promised delivery time, the success of this aspect of their experience is objectively measurable. On the other hand, if they don't like the style or layout of the website they are ordering from, this is subjective. Another customer might really enjoy the design.

4.3.1.4 Applying the principle

To apply this principle successfully, consider this advice:

- Know how service consumers use each service. Understand their expected outcomes, how each service contributes to these, and how the service consumers perceive the service provider. Collect feedback on value on an ongoing basis, not just at the beginning of the service relationship. Encourage a focus on value among all staff. Teach staff to be aware of who their customers

are and to understand CX.

- Focus on value during normal operational activity as well as during improvement initiatives The organization as a whole contributes to the value that the customer perceives, and so everybody within the organization must maximize the value they create. The creation of value should not be left only to the people working on exciting projects and new things.
- Include focus on value in every step of any improvement initiative Everybody involved in an improvement initiative needs to understand what outcomes the initiative is trying to facilitate, how its value will be measured, and how they should be contributing to the co-creation of that value.

The ITIL story: Focus on value



Radhika: When Axle expanded to the Asia-Pacific region, we undertook research focused on customers travelling outside their native countries. The results found that American and European customers travelling to these areas had concerns around unfamiliar road rules and safety.



Marco: Axle is introducing a certified, third-party driver assistance system called Axle Aware. The system checks external surroundings and internal conditions in the car. It includes cameras to monitor the area around the car, and an artificial intelligence program with local road rules. It can even let the driver know when fatigue is starting to set in.

The system will alert the driver to approaching dangers and potential road rule breaches. For example, in Australia, local road rules dictate that drivers are required to give a minimum of 1 metre when passing cyclists at a speed of 60 km/h or less, or 1.5 metres when the speed is more than 60 km/h.



Su: Many visiting tourists will be mostly focused on driving on the correct side of the road and won't know about this rule, but the Axle Aware system does!



Marco: Studies have shown that systems such as this significantly decrease accident rates and serious injuries.



Su: This means that the value to our consumers is a safer travel experience. It will be cheaper too, as they will have fewer penalties for breaking rules they are not familiar with!



Henri: The value for Axle Car Hire is improved customer satisfaction, reduced repair costs and lower insurance premiums.

Marco: This type of innovation will also provide additional value for some of



our partners and suppliers.



Radhika: For example, we've updated our contract with our fleet maintenance partner. Maintenance will now include Axle Aware. The value to our maintenance partner is the additional revenue.

4.3.2 Start where you are



Key message

In the process of eliminating old, unsuccessful methods or services and creating something better, there can be great temptation to remove what has been done in the past and build something **completely new**. This is rarely necessary, or a wise decision. This approach can be extremely wasteful, not only in terms of time, but also in terms of the loss of existing services, processes, people, and tools that could have significant value in the improvement effort. Do not start over without first considering what is already available to be leveraged.

The ITIL story: Axle's booking appMarco:



Marco: The Axle booking app was first developed two years ago. The app is no longer meeting business requirements. It can't cater for the advances in technology we're using now, such as the biometric system and the driver assistance system.

For example, we need our app to have the capability to scan and validate our customers' fingerprints and facial images. The current coding simply can't support that. We need a new app!

4.3.2.1 Assess where you are

Services and methods already in place should be **measured** and/or observed **directly** to properly understand their **current state** and what can be **re-used** from them. Decisions on how to proceed should be based on information that is as accurate as

possible. Within organizations there is frequently a discrepancy between reports and reality. This is due to the difficulty of accurately measuring certain data, or the unintentional bias or distortion of data that is produced through reports. Getting data from the source helps to avoid assumptions which, if proven to be unfounded, can be disastrous to timelines, budgets, and the quality of results.

Those observing an activity should not be afraid to ask what may seem to be stupid questions. It can sometimes be beneficial for a person with little or no prior knowledge of the service to be part of the observation, as they have no preconceptions of the service, and may spot things that those more closely involved with it would miss.

The ITIL story: Assessing the current state



Henri: Everyone likes the idea of a new app, and IT is keen to start gathering user requirements so that we can start development. However, before we develop an entirely new app, let's assess the current state of the app we have to see if there's any functionality we can re-use.

The current process for booking a car meets basic requirements, and doesn't need to change. We just need additional functionality. For example, the process for recording, storing, and calculating points for our loyalty programme won't change.

We should also consider the limits of the technology that our customers use. If we want to introduce biometric data recognition, users will need to have modern devices. I am not sure they all do, so we should investigate constraints and opportunities here.



Marco: Our current booking app is working well. Incident data indicates that customers make very few calls to the service desk. This indicates that the current functionality is fit for use and meets customer requirements.



Henri: However, our focus groups indicate that customers avoid using the app because it's slow and difficult to use. Previously, upgrades focused on technology, not the requirements of our customers. We didn't have the flexibility to easily configure functionality to match new and changing service offerings. So the reliability and usability of the booking app can't be assessed solely using the data from incidents logged.

We need to confirm these findings with other research.

4.3.2.2 The role of measurement

The use of measurement is important to this principle. It should, however, support

but not replace what is observed, as over-reliance on data analytics and reporting can unintentionally introduce biases and risks in decision-making. Organizations should consider a variety of techniques to develop knowledge of the environments in which they work. Although it is true that some things can only be understood through measuring their effect (for example, natural phenomena such as the wind), direct observation should always be the preferred option. Too often existing data is used with no consideration of direct personal investigation.

It should be noted that the act of measuring can sometimes affect the results, making them inaccurate. For example, if a service desk knows it is being monitored on length of time spent on the phone, it might focus too much on minimizing customer engagement (thus leading to good reports), rather than actually helping users resolve issues to their satisfaction. People are very creative in finding ways to meet the metrics they are measured against. Therefore, metrics need to be meaningful and directly relate to the desired outcome.

'When a measure becomes a target, it ceases to be a good measure
Goodhart's Law'

4.3.2.3 Applying the principle

Having a proper understanding of the **current state of services and methods** is important to selecting which elements to **re-use, alter, or build upon**. To apply this principle successfully, consider this advice:

- Look at what exists as **objectively as possible**, using the customer or the desired outcome as the starting point. Are the elements of the current state fit for purpose and fit for use? There are likely to be many elements of the current services, practices, projects, and skills that can be used to create the desired future state, provided the people making this judgement are objective.
- When **examples of successful practices or services** are found in the current state, determine if and how these can be replicated or expanded upon to achieve the **desired state**. In many, if not most, cases, leveraging what already exists will reduce the amount of work needed to transition from the current state to the desired state. There should be a focus on learning and improvement, not just replication and expansion.
- Apply your **risk management skills**. There are risks associated with re-using existing practices and processes, such as the continuation of old behaviours that are damaging to the service. There are also risks associated with putting something new in place, such as new procedures not being performed correctly. These should be considered as part of the decision-making process, and the risks of making or not making a change evaluated to decide on the best course of action.
- Recognize that sometimes **nothing** from the **current state** can be **re-used**.

Regardless of how desirable it may be to re-use, repurpose and recycle, or even upcycle, there will be times when the only way to achieve the desired result is to start over entirely. It should be noted, however, that these situations are very rare.

4.3.3 Progress iteratively with feedback



Key message

Resist the temptation to do everything at once. Even huge initiatives must be accomplished iteratively. By organizing work into smaller, manageable sections that can be executed and completed in a timely manner, the focus on each effort will be sharper and easier to maintain.

Improvement iterations can be sequential or simultaneous, based on the requirements of the improvement and what resources are available. Each individual iteration should be both manageable and managed, ensuring that tangible results are returned in a timely manner and built upon to create further improvement.

A major improvement initiative or programme may be organized into several significant improvement initiatives, and each of these may, in turn, comprise smaller improvement efforts. The overall initiative or programme, as well as its component iterations, must be continually re-evaluated and potentially revised to reflect any changes in circumstances and ensure that the focus on value has not been lost. This re-evaluation should make use of a wide range of feedback channels and methods to ensure that the status of the initiative and its progress are properly understood.

4.3.3.1 The role of feedback

Whether working to improve a service, group of services, practice, process, technical environment, or other service management element, no improvement iteration occurs in a vacuum. While the iteration is being undertaken, circumstances can change and new priorities can arise, and the need for the iteration may be altered or even eliminated. Seeking and using feedback before, throughout, and after each iteration will ensure that actions are focused and appropriate, even in changing circumstances.

A feedback loop is a term commonly used to refer to a situation where part of the output of an activity is used for new input. In a well-functioning organization,

feedback is actively collected and processed along the value chain. Well-constructed feedback mechanisms facilitate understanding of:

- end user and customer perception of the value created
- the efficiency and effectiveness of value chain activities
- the effectiveness of service governance as well as management controls
- the interfaces between the organization and its partner and supplier network
- the demand for products and services.

Once received, feedback can be analysed to identify improvement opportunities, risks, and issues.

4.3.3.2 Iteration and feedback together

Working in a timeboxed, iterative manner with feedback loops embedded into the process allows for:

- greater flexibility
- faster responses to customer and business needs
- the ability to discover and respond to failure earlier
- an overall improvement in quality.

Having appropriate feedback loops between the participants of an activity gives them a better understanding of where their work comes from, where their outputs go, and how their actions and outputs affect the outcomes, which in turn enables them to make better decisions.

The ITIL story: Progress iteratively



Marco: *It's now been three months since Axle released the first iteration of its new app. We began by making it available solely to trusted VIP customers. We worked with their feedback to refine the booking process.*



Radhika: *We learned that the app needed to be flexible so we could make changes easily based on rapidly evolving customer requirements. For example, our business customers wanted the app to automatically record distance travelled. Working with our product team, we were easily able to add this functionality.*



Su: *The app is now easily configurable, allowing Axle to quickly add new functions and features based on customer feedback.*

4.3.3.3 Applying the principle

To apply this principle successfully, consider this advice:

- Comprehend the whole, but do something Sometimes the greatest enemy to progressing iteratively is the desire to understand and account for everything. This can lead to what is sometimes called ‘analysis paralysis’, in which so much time is spent analysing the situation that nothing ever gets done about it.
- Understanding the big picture is important, but so is making progress. The ecosystem is constantly changing, so feedback is essential Change is happening constantly, so it is very important to seek and use feedback at all times and at all levels.
- Fast does not mean incomplete Just because an iteration is small enough to be done quickly does not mean that it should not include all the elements necessary for success. Any iteration should be produced in line with the concept of the minimum viable product. A minimum viable product is a version of the final product which allows the maximum amount of validated learning with the least effort.

4.3.4 Collaborate and promote visibility



Key message

When initiatives involve the right people in the correct roles, efforts benefit from better buy-in, more relevance (because better information is available for decision-making) and increased likelihood of long-term success.

Creative solutions, enthusiastic contributions, and important perspectives can be obtained from unexpected sources, so inclusion is generally a better policy than exclusion. Cooperation and collaboration are better than isolated work, which is frequently referred to as ‘silo activity’. Silos can occur through the behaviour of individuals and teams, but also through structural causes. This typically happens where functions or business units in an organization are impeded or unable to collaborate, because their processes, systems, documentation, and communications are designed to fulfil the needs of only a specific part of the organization. Applying the guiding principle of think and work holistically (see section 4.3.5) can help organizations to break down barriers between silos of work.

Recognition of the need for genuine collaboration has been one of the driving factors in the evolution of what is now known as DevOps. Without effective collaboration, neither Agile, Lean, nor any other ITSM framework or method will work.

Working together in a way that leads to real accomplishment requires information, understanding, and trust. Work and its results should be made visible, hidden agendas should be avoided, and information should be shared to the greatest degree possible. The more people are aware of what is happening and why, the more they will be willing to help.

When improvement activity occurs in relative silence, or with only a small group being aware of the details, assumptions and rumours can prevail. Resistance to change will often arise as staff members speculate about what is changing and how it might impact them.

4.3.4.1 Whom to collaborate with

Identifying and managing all the stakeholder groups that an organization deals with is important, as the people and perspectives necessary for successful collaboration can be sourced within these stakeholder groups. As the name suggests, a stakeholder is anyone who has a stake in the activities of the organization, including the organization itself, its customers and/or users, and many others. The scope of stakeholders can be extensive.

The first and most obvious stakeholder group is the customers. The main goal of a service provider is to facilitate outcomes that its customers are interested in, so the customers have a large stake in the service provider's ability to manage services effectively. Some organizations, however, do a poor job of interacting with customers. A service provider may feel that it is too difficult to get input or feedback from the customer, and that the resulting delays are a waste of time. Equally, customers may feel that, after they have defined their requirements, the service provider can be left to deliver the service with no further contact needed. When it comes to the improvement of a service provider's practices, the customer may not see any need to be involved at all. In the end, however, the right level of collaboration with customers will lead to better outcomes for the organization, its customers, and other stakeholders.

Other examples of stakeholder collaboration include:

- developers working with other internal teams to ensure that what is being developed can be operated efficiently and effectively. Developers should collaborate with technical and non-technical operational teams to make sure that they are ready, willing, and able to transition the new or changed service into operation, perhaps even participating in testing. Developers can also work

with operations teams to investigate defects (problems) and to develop workarounds or permanent fixes to resolve these defects

- suppliers collaborating with the organization to define its requirements and brainstorm solutions to customer problems
- relationship managers collaborating with service consumers to achieve a comprehensive understanding of service consumer needs and priorities
- customers collaborating with each other to create a shared understanding of their business issues
- internal and external suppliers collaborating with each other to review shared processes and identify opportunities for optimization and potential automation.

4.3.4.2 Communication for improvement

The contribution to improvement of each stakeholder group at each level should be understood; it is also important to define the most effective methods to engage with them. For example, the contribution to improvement from customers of a public cloud service may be through a survey or checklist of options for different functionalities. For an internal customer group, the contribution to improvement may come from feedback solicited via a workshop or a collaboration tool on the organization's intranet.

Some contributors may need to be involved at a very detailed level, while others can simply be involved as reviewers or approvers. Depending on the service and the relationship between the service provider and the service consumer, the expectations about the level and type of collaboration can vary significantly.

4.3.4.3 Increasing urgency through visibility

When stakeholders (whether internal or external) have poor visibility of the workload and progression of work, there is a risk of creating the impression that the work is not a priority. If an initiative is communicated to a team, department, or another organization and then is never, or rarely, mentioned again, the perception will be that the change is not important. Equally, when staff members attempt to prioritize improvement work versus other tasks that have daily urgency, improvement work may seem to be a low-priority activity unless its importance has been made transparent and it is supported by the organization's management.

Insufficient visibility of work leads to poor decision-making, which in turn impacts the organization's ability to improve internal capabilities. It will then become difficult to drive improvements as it will not be clear which ones are likely to have the greatest positive impact on results. To avoid this, the organization needs to perform such critical analysis activities as:

- understanding the flow of work in progress
- identifying bottlenecks, as well as excess capacity
- uncovering waste.

It is important to involve and address the needs of stakeholders at all levels. Leaders at various levels should also provide appropriate information relating to the improvement work in their own communications to others. Together, these actions will serve to reinforce what is being done, why it is being done, and how it relates to the stated vision, mission, goals, and objectives of the organization. Determining the type, method, and frequency of such messaging is one of the central activities related to communication.

The ITIL story: Working collaboratively



Henri: As well as being iterative, our work on the new Axle booking app is also collaborative. We include many of our teams, such as developers, testers, and support staff, and of course, our customers and users. This approach enables us to improve our services in a more responsive and targeted manner, based on feedback.

4.3.4.4 Applying the principle

To apply this principle successfully, consider this advice:

- Collaboration does not mean consensus It is not necessary, or even always wise, to get consensus from everyone involved in an initiative before proceeding. Some organizations are so concerned with getting consensus that they try to make everyone happy and end up either doing nothing or producing something that does not properly suit anyone's needs. Communicate in a way the audience can hear In an attempt to bring different stakeholders into the loop, many organizations use very traditional methods of communication, or they use the same method for all communication. Selecting the right method and message for each audience is critical for success.
- Decisions can only be made on visible data Making decisions in the absence of data is risky. Decisions should be made about what data is needed, and therefore what work needs to be made visible. There may be a cost to collecting data, and the organization must balance that cost against the benefit and intended usage of the data.

4.3.5 Think and work holistically



Key message

No service, practice, process, department, or supplier stands alone. The outputs that the organization delivers to itself, its customers, and other stakeholders will suffer unless it works in an integrated way to handle its activities as a whole, rather than as separate parts. All the organization's activities should be focused on the delivery of value.

Services are delivered to internal and external service consumers through the coordination and integration of the four dimensions of service management (see Chapter 3).

Taking a holistic approach to service management includes establishing an understanding of how all the parts of an organization work together in an integrated way. It requires end-to-end visibility of how demand is captured and translated into outcomes. In a complex system, the alteration of one element can impact others and, where possible, these impacts need to be identified, analysed and planned for.

The ITIL story: Think and work holistically



Su: *Currently, Axle is working on many initiatives. We have a schedule of iterative releases of our new booking app, as well as our Axle Aware advanced driver assistance system, and the new biometric scanning for collection and return of vehicles.*



Henri: *With so much activity, we need to understand the impacts both upstream and downstream. For example, a decision to expand our booking app with a new functionality would need to consider any resource constraints for our support teams.*

4.3.5.1 Applying the principle

To apply this principle successfully, consider this advice:

- Recognize the complexity of the systems Different levels of complexity require different heuristics for decision-making. Applying methods and rules designed for a simple system can be ineffective or even harmful in a complex system, where relationships between components are complicated and change more frequently. Collaboration is key to thinking and working holistically If the right

mechanisms are put in place for all relevant stakeholders to collaborate in a timely manner, it will be possible to address any issue holistically without being unduly delayed.

- Where possible, look for patterns in the needs of and interactions between system elements Draw on knowledge in each area to identify what is essential for success, and which relationships between elements influence the outcomes. With this information, needs can be anticipated, standards can be set, and a holistic view point can be achieved.
- Automation can facilitate working holistically Where the opportunity and sufficient resources are available, automation can support end-to-end visibility for the organization and provide an efficient means of integrated management.

4.3.6 Keep it simple and practical



Key message

Always use the minimum number of steps to accomplish an objective. Outcome-based thinking should be used to produce practical solutions that deliver valuable outcomes. If a process, service, action, or metric fails to provide value or produce a useful outcome, then eliminate it. Although this principle may seem obvious, it is frequently ignored, resulting in overly complex methods of work that rarely maximize outcomes or minimize cost.

Trying to provide a solution for every exception will often lead to over-complication. When creating a process or a service, designers need to think about exceptions, but they cannot cover them all. Instead, rules should be designed that can be used to handle exceptions generally.

The ITIL story: Judging what to keep



Su: Axle's marketing department has indicated they would like to launch a new end-of-year promotion. The promotion would include a free upgrade to a luxury vehicle during February and the chance to win an overseas holiday.

To enter, customers will submit an article titled 'My Best Driving Holiday Adventure'. The marketing team will then collect and analyse the customer data and create an app that targets their travel preferences.



Henri: *Our developers are already busy with an implementation schedule for biometric services. We need speed to market for this functionality. We must prioritize our work based on the expected value.*

4.3.6.1 Judging what to keep

When analysing a practice, process, service, metric, or other improvement target, always ask whether it contributes to value creation.

When designing or improving service management, it is better to start with an uncomplicated approach and then carefully add controls, activities, or metrics when it is seen that they are truly needed.

Critical to keeping service management simple and practical is understanding exactly how something contributes to value creation. For example, a step in a process may be perceived by the operational staff involved as a waste of time. However, from a corporate perspective, the same step may be important for regulatory compliance and therefore valuable in an indirect, but nevertheless important, way. It is necessary to establish and communicate a holistic view of the organization's work so that individual teams or groups can think holistically about how their work is being influenced by, and in turn influences, others.

The ITIL story: Judging what to keep



Marco: *Our original booking app captured a lot of data, such as how long it took a customer to complete each form in the booking app. But we discovered that the data provided little value for decision-making. The true value lay in how long the overall booking process took. We refined the booking app fields and improved its overall speed by removing this data capture function.*

4.3.6.2 Conflicting objectives

When designing, managing, or operating practices, be mindful of conflicting objectives. For example, the management of an organization may want to collect a large amount of data to make decisions, whereas the people who must do the record-keeping may want a simpler process that does not require as much data entry. Through the application of this and the other guiding principles, the organization should agree on a balance between its competing objectives. In this example, this could mean that services should only generate data that will truly provide value to the decision-making process, and record-keeping should be simplified and automated where possible to maximize value and reduce non-value-adding work.

4.3.6.3 Applying the principle

To apply this principle successfully, consider this advice:

- Ensure value Every activity should contribute to the creation of value.
- Simplicity is the ultimate sophistication It may seem harder to simplify, but it is often more effective. Do fewer things, but do them better Minimizing activities to include only those with value for one or more stakeholders will allow more focus on the quality of those actions.
- Respect the time of the people involved A process that is too complicated and bureaucratic is a poor use of the time of the people involved.
- Easier to understand, more likely to adopt To embed a practice, make sure it is easy to follow.
- Simplicity is the best route to achieving quick wins Whether in a project, or when improving daily operations activities, quick wins allow organizations to demonstrate progress and manage stakeholder expectations. Working in an iterative way with feedback will quickly deliver incremental value at regular intervals.

4.3.7 Optimize and automate



Key message

Organizations must maximize the value of the work carried out by their human and technical resources. The four dimensions model (outlined in Chapter 3) provides a holistic view of the various constraints, resource types, and other areas that should be considered when designing, managing, or operating an organization. Technology can help organizations to scale up and take on frequent and repetitive tasks, allowing human resources to be used for more complex decision-making. However, technology should not always be relied upon without the capability of human intervention, as automation for automation's sake can increase costs and reduce organizational robustness and resilience.

Optimization means to make something as effective and useful as it needs to be. Before an activity can be effectively automated, it should be optimized to whatever degree is possible and reasonable. It is essential that limits are set on the

optimization of services and practices, as they exist within a set of constraints which may include financial limitations, compliance requirements, time constraints, and resource availability.

4.3.7.1 The road to optimization

There are many ways in which practices and services can be optimized. The concepts and practices described in ITIL, particularly the practices of continual improvement, and measurement and reporting (see sections 5.1.2 and 5.1.5), are essential to this effort. The specific practices an organization uses to improve and optimize performance may draw upon guidance from ITIL, Lean, DevOps, Kanban, and other sources. Regardless of the specific techniques, the path to optimization follows these high-level steps:

- Understand and agree the context in which the proposed optimization exists. This includes agreeing the overall vision and objectives of the organization. Assess the current state of the proposed optimization. This will help to understand where it can be improved and which improvement opportunities are likely to produce the biggest positive impact.
- Agree what the future state and priorities of the organization should be, focusing on simplification and value. This typically also includes standardization of practices and services, which will make it easier to automate or optimize further at a later point.
- Ensure the optimization has the appropriate level of stakeholder engagement and commitment.
- Execute the improvements in an iterative way. Use metrics and other feedback to check progress, stay on track, and adjust the approach to the optimization as needed.
- Continually monitor the impact of optimization. This will help to identify opportunities to improve methods of working.

4.3.7.2 Using automation

Automation typically refers to the use of technology to perform a step or series of steps correctly and consistently with limited or no human intervention. For example, in organizations adopting continuous deployment, it refers to the automatic and continuous release of code from development through to live, and often automatic testing occurring in each environment. In its simplest form, however, automation could also mean the standardization and streamlining of manual tasks, such as defining the rules of part of a process to allow decisions to be made ‘automatically’. Efficiency can be greatly increased by reducing the need for human involvement to stop and evaluate each part of a process.

Opportunities for automation can be found across the entire organization. Looking for opportunities to automate standard and repeating tasks can help save the organization costs, reduce human error, and improve employee experience.

The ITIL story: Optimize and automate



Marco: *Axle has started to trial the new biometric technology, and the tests are going well. We're keen to implement this technology in all our depots.*



Radhika: *Before Axle introduced biometrics, there were many manual, paper-based processes. Axle staff used paper checklists to carry out vehicle damage checks. Their notes then had to be entered in a database, which was only available on desktop computers. It was not real time or accessible across other systems.*



Su: *This work was usually put aside until the end of the day, and details were often lost. We had to improve the process of data capture before automating.*



Radhika: *We can automate almost anything. But let's get the business rules and processes right first.*

4.3.7.3 Applying the principle

To apply this principle successfully, consider this advice:

- Simplify and/or optimize before automating Attempting to automate something that is complex or sub-optimal is unlikely to achieve the desired outcome. Take time to map out the standard and repeating processes as far as possible, and streamline where you can (optimize). From there you can start to automate.
- Define your metrics The intended and actual result of the optimization should be evaluated using an appropriate set of metrics. Use the same metrics to define the baseline and measure the achievements. Make sure that the metrics are
- outcome-based and focused on value. Use the other guiding principles when applying this one When optimizing and automating, it is smart to follow the other principles as well:
 - Progress iteratively with feedback Iterative optimization and automation will make progress visible and increase stakeholder buy-in for future iterations.
 - Keep it simple and practical It is possible for something to be simple, but not optimized, so use these two principles together when selecting improvements.

- **Focus on value** Selecting what to optimize and automate and how to do so should be based on what will create the best value for the organization.
- **Start where you are** The technology already available in the organization may have features and functionalities that are currently untapped or under-utilized. Make use of what is already there to implement opportunities for optimization and automation quickly and economically.

4.3.8 Principle interaction

As well as being aware of the ITIL guiding principles, it is also important to recognize that they interact with and depend upon each other. For example, if an organization is committed to progressing iteratively with feedback, it should also think and work holistically to ensure that each iteration of an improvement includes all the elements necessary to deliver real results. Similarly, making use of appropriate feedback is key to collaboration, and focusing on what will truly be valuable to the customer makes it easier to keep things simple and practical.

Organizations should not use just one or two of the principles, but should consider the relevance of each of them and how they apply together. Not all principles will be critical in every situation, but they should all be reviewed on each occasion to determine how appropriate they are.

4.4 Governance

4.4.1 Governing bodies and governance



Key message

Every organization is directed by a governing body, i.e. a person or group of people who are accountable at the highest level for the performance and compliance of the organization. All sizes and types of organization perform governance activities; the governing body may be a board of directors or executive managers who take on a separate governance role when they are performing governance activities. The governing body is accountable for the organization's compliance with policies and any external regulations.

Organizational governance is a system by which an organization is directed and

controlled. Governance is realized through the following activities:

- Evaluate The evaluation of the organization, its strategy, portfolios, and relationships with other parties. The governing body evaluates the organization on a regular basis as stakeholders' needs and external circumstances evolve.
- Direct The governing body assigns responsibility for, and directs the preparation and implementation of, organizational strategy and policies. Strategies set the direction and prioritization for organizational activity, future investment, etc. Policies establish the requirements for behaviour across the organization and, where relevant, suppliers, partners, and other stakeholders.
- Monitor The governing body monitors the performance of the organization and its practices, products, and services. The purpose of this is to ensure that performance is in accordance with policies and direction.

Organizational governance evaluates, directs, and monitors all the organization's activities, including those of service management.

4.4.2 Governance in the SVS

The role and position of governance in the ITIL SVS depends on how the SVS is applied in an organization. The SVS is a universal model that can be applied to an organization as a whole, or to one or more of its units or products. In the latter case, some organizations delegate authority to perform governance activities at different levels. The governing body of the organization should retain oversight of this to ensure alignment with the objectives and priorities of the organization.

In ITIL 4, the guiding principles and continual improvement apply to all components of the SVS, including governance. In an organization, the governing body can adopt the ITIL guiding principles and adapt them, or define its own specific set of principles and communicate them across the organization. The governing body should also have visibility of the outcomes of continual improvement activities and the measurement of value for the organization and its stakeholders.

Regardless of the scope of the SVS and the positioning of the components, it is crucial to make sure that:

- the service value chain and the organization's practices work in line with the direction given by the governing body
- the governing body of the organization, either directly or through delegation of authority, maintains oversight of the SVS
- both the governing body and management at all levels maintain alignment through a clear set of shared principles and objectives
- the governance and management at all levels are continually improved to meet expectations of the stakeholders.

4.5 Service value chain

The central element of the SVS is the service value chain, an operating model which outlines the key activities required to respond to demand and facilitate value realization through the creation and management of products and services.

As shown in Figure 4.2, the ITIL service value chain includes six value chain activities which lead to the creation of products and services and, in turn, value.

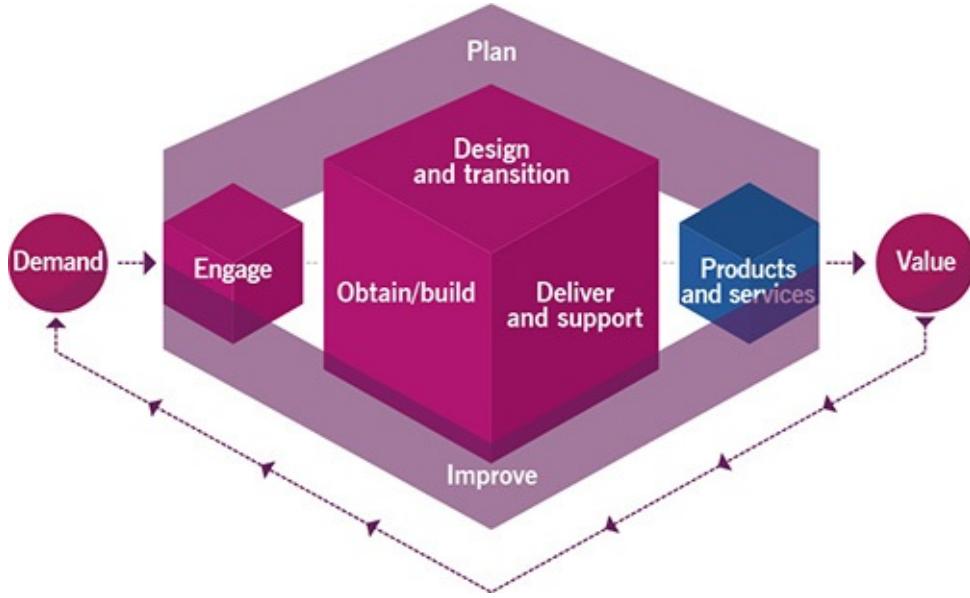


Figure 4.2 The ITIL service value chain



Key message

The six value chain activities are:

- plan
- improve
- engage
- design and transition
- obtain/build
- deliver and support.

These activities represent the steps an organization takes in the creation of value. Each activity transforms inputs into outputs. These inputs can be

demand from outside the value chain or outputs of other activities. All the activities are interconnected, with each activity receiving and providing triggers for further action.

To convert inputs into outputs, the value chain activities use different combinations of ITIL practices (sets of resources for performing certain types of work), drawing on internal or third-party resources, processes, skills, and competencies as required. For example, the engage activity might draw on supplier management, service desk management, relationship management, and service request management to respond to new demands for products and services, or information from various stakeholders (see Chapter 5 for more information on practices).

Regardless of which practices are deployed, there are some common rules when using the service value chain:

- All incoming and outgoing interactions with parties external to the value chain are performed via *engage*
- All new resources are obtained through *obtain/build*
- Planning at all levels is performed via *plan*
- Improvements at all levels are initiated and managed via *improve*.

To carry out a certain task or respond to a particular situation, organizations create service value streams. These are specific combinations of activities and practices, and each one is designed for a particular scenario. Once designed, value streams should be subject to continual improvement.

A value stream might, for example, be created for a situation where a user of a service needs an incident to be resolved. The value stream will be designed specifically to resolve this issue, and will provide a complete guide to the activities, practices, and roles involved. A more detailed outline of this and other examples of value streams can be found in Appendix A.

Example of a service value chain, its practices, and value streams

A mobile application development company has a value chain, enabling the full cycle of application development and management, from business analysis to development, release, and support. The company has developed a number of practices, supported with specialized resources and techniques:

- business analysis
- development
- testing
- release and deployment

- support.

Although the high-level steps are universal, different products and clients need different streams of work. For example:

- The development of a new application for a new client starts with initial engagement (pre-sale), then proceeds to business analysis, prototyping, the drawing up of agreements, development, testing, and eventually to release and support.
- Changing an existing application to meet new requirements of existing clients does not include pre-sale and involves business analysis, development, testing, and support in a different way.
- Fixing an error in a live application may be initiated in support, proceed with rolling back to a previous stable version (release), then moves to development, testing, and release of a fix.
- Experiments with new or existing applications to expand the target audience may start with innovation planning and prototyping, then proceed to development, and eventually to a pilot release for a limited group of users to test their perception of the changes made.

These are examples of value streams: they combine practices and value chain activities in various ways to improve products and services and increase potential value for the consumers and the organization.

ITSM in the modern world: Agile ITSM

For an organization to be successful, it must be able to adapt to changing circumstances while remaining functional and effective. This might include changes to the products and services it provides and consumes, as well as changes to its structure and practices. In the modern world, where IT is essential for all organizations, IT and IT management are expected to be Agile.

For many IT professionals, agility refers to software development and is associated with the Agile Manifesto, proclaimed in 2001. The manifesto promoted new approaches to software development, and valued customer experience, collaboration, and rapid changes over detailed planning and documentation, controls, and requirements. Agile software development methods have been adopted by many companies and software teams since then, and in many cases have proven to be effective.

Agile software development usually includes:

- continually evolving requirements, collected through feedback analysis and

direct observation

- breaking development work into small increments and iterations
- establishing product-based cross-functional teams
- visually presenting (Kanban) and regularly discussing (daily stand-ups) work progress
- presenting a working (at least, the minimum viable) software to the stakeholders at the end of each iteration.

If applied successfully, Agile software development enables fast responses to the evolving needs of service consumers. However, in many organizations, Agile software development has not provided the expected benefits, often due to lack of Agile methods in the other phases of the service lifecycle. This fragmented agility makes little sense for the organization, as the overall performance of the value chain is defined by that of the slowest part. A holistic approach to the service value chain should be adopted to make sure that the service provider is Agile throughout the service lifecycle. This means that agility should become a quality of all service management dimensions and all service value chain activities.

One of the greatest obstacles to service value chain agility used to be the rigidity of infrastructure solutions. It could take months to deploy the necessary infrastructure for a new software program, which made all development agility invisible and irrelevant for the service consumer. This problem has, to a great extent, been solved as technology has evolved. Virtualization, fast broadband and mobile connections, and cloud computing have allowed organizations to treat their IT infrastructure as a service or as a code, thus providing infrastructure changes with a velocity that was previously only possible for software. Once the technical problem was resolved, Agile methods could be applied to infrastructure configuration and deployment. This stimulated integration between software and infrastructure teams, and consequently between development and operations.

Many principles of Agile development can and should be applied to service operations and support. Operational changes and service requests can be handled in small iterations by dedicated product or service-focused teams, with constant feedback and high visibility. Daily operational activities can and should be visible and prioritized together with other tasks. All service management activities can and should continually provide, collect, and process feedback.

Agility is not a software development feature; it is an important quality of organizations in their entirety. Agile activities require Agile funding and adjusted financial and compliance controls, Agile resourcing, Agile contracting, Agile procurement, etc. If being Agile is adopted as a key principle, an organization should be able to survive and prosper in a constantly changing

environment. Applied in a fragmented way, Agile methods can become a costly and wasteful complication.

The ITIL story: Value chains and value streams



Henri: At Axle Car Hire, the value chain is the way that our company operates. It has multiple value streams. Each value stream adopts and adapts the activities of the value chain for carrying out particular tasks. For example, there is one value stream for innovation, and another for providing standard services to existing customers.

The value stream for providing standard services to existing customers represents the activities that are carried out when a customer hires a car. This starts with engagement, when a customer contacts Axle, and then proceeds to delivery, when they receive a car (although engagement can still happen at this stage).

Some value chain activities may be ongoing throughout a particular value stream, or may not be involved at all. In this stream, planning activity is continuous, but design and procurement activities will typically not be involved. The stream ends with more engagement activities, when cars are returned by customers, feedback is given, and orders are closed.



Marco: Value chain activities do not have to happen in a particular order. Axle's innovation value stream is triggered by opportunity, and then goes to planning, designing, building or obtaining, transitioning, and finally to delivering. This stream often includes procurement activities. For example, we procure software and hardware for our biometric solutions.



Henri: We manage value streams for different objectives, combining the value chain activities and supporting them with practices. Every value stream should be effective and efficient, and subject to continual improvement.

The following sections outline the value chain activities and define the purpose, inputs, and outputs for each. As each value stream is made up of a **different combination of activities and practices**, the inputs and outputs listed will not always apply, as they are specific to particular value streams. For example, the 'strategic, tactical, and operational plans' output of the plan value chain activity is formed as a result of strategic, tactical, and operational planning respectively. Each of these levels is likely to involve different resources, have a different planning cycle, and be triggered by different events. The lists of inputs and outputs given are not prescriptive, and they can and should be adjusted when organizations design their value streams.

4.5.1 Plan



Key message

The purpose of the plan value chain **activity** is to ensure a **shared understanding** of the vision, current status, and improvement direction for all four dimensions and all products and services across the organization.

The key **inputs** to this activity are:

- policies, requirements, and constraints provided by the organization's governing body
- consolidated **demands and opportunities** provided by *engage*
- value chain **performance information**, improvement **status reports**, and improvement **initiatives** from *improve*
- **knowledge** and **information** about **new** and **changed** products and services from *design and transition*, and *obtain/build*
- knowledge and information about **third-party service components** from *engage*.

The key **outputs** of this activity are:

- **strategic**, **tactical**, and **operational plans**
- portfolio **decisions** for *design and transition*
- **architectures** and **policies** for *design and transition*
- improvement **opportunities** for *improve*
- a product and **service portfolio** for *engage*
- **contract** and **agreement requirements** for *engage*.

4.5.2 Improve



Key message

The purpose of the improve value chain activity is to ensure continual improvement of products, services, and practices across all value chain activities and the four dimensions of service management.

The key **inputs** to this value chain activity are:

- product and service **performance information** provided by *deliver and support*
- stakeholders' **feedback** provided by *engage*
- performance **information** and improvement **opportunities** provided by **all** value chain activities
- knowledge and information about **new and changed products** and services from *design and transition*, and *obtain/build*
- knowledge and information about **third-party service components** from *engage*.

The key **outputs** of this value chain activity are:

- improvement **initiatives** for all value chain activities
- value chain **performance information** for *plan* and the governing body
- improvement **status reports** for all value chain activities
- contract and agreement **requirements** for *engage*
- service **performance information** for *design and transition*.

4.5.3 Engage



Key message

The purpose of the engage value chain activity is to provide a good understanding of stakeholder **needs, transparency, and continual engagement** and **good relationships with all** stakeholders.

The key inputs to this value chain activity are:

- a product and service portfolio provided by *plan*
- high-level demand for services and products provided by internal and external customers
- detailed requirements for services and products provided by customers

- requests and feedback from customers
- incidents, service requests, and feedback from users
- information on the completion of user support tasks from *deliver and support*
- marketing opportunities from current and potential customers and users
- cooperation opportunities and feedback provided by partners and suppliers
- contract and agreement requirements from all value chain activities
- knowledge and information about new and changed products and services from *design and transition*, and *obtain/build*
- knowledge and information about third-party service components from suppliers and partners
- product and service performance information from *deliver and support*
- improvement initiatives from *improve*
- improvement status reports from *improve*.

The key outputs of this value chain activity are:

- consolidated demands and opportunities for *plan*
- product and service requirements for *design and transition*
- user support tasks for *deliver and support*
- improvement opportunities and stakeholders' feedback for *improve*
- change or project initiation requests for *obtain/build*
- contracts and agreements with external and internal suppliers and partners for *design and transition*, and *obtain/build*
- knowledge and information about third-party service components for all value chain activities
- service performance reports for customers.

4.5.4 Design and transition



Key message

The purpose of the design and transition value chain activity is to ensure that products and services continually meet stakeholder expectations for quality, costs, and time to market.

The key inputs to this activity are:

- portfolio decisions provided by *plan*
- architectures and policies provided by *plan*
- product and service requirements provided by *engage*
- improvement initiatives provided by *improve*
- improvement status reports from *improve*
- service performance information provided by *deliver and support*, and *improve*
- service components from *obtain/build*
- knowledge and information about third-party service components from *engage*
- knowledge and information about new and changed products and services from *obtain/build*
- contracts and agreements with external and internal suppliers and partners provided by *engage*.

The key outputs of this activity are:

- requirements and specifications for *obtain/build*
- contract and agreement requirements for *engage*
- new and changed products and services for *deliver and support*
- knowledge and information about new and changed products and services to all value chain activities
- performance information and improvement opportunities for *improve*.

4.5.5 Obtain/build



Key message

The purpose of the obtain/build value chain activity is to ensure that service components are available when and where they are needed, and meet agreed specifications.

The key inputs to this activity are:

- architectures and policies provided by *plan*
- contracts and agreements with external and internal suppliers and partners

provided by *engage*

- goods and services provided by external and internal suppliers and partners
- requirements and specifications provided by *design and transition*
- improvement initiatives provided by *improve*
- improvement status reports from *improve*
- change or project initiation requests provided by *engage*
- change requests provided by *deliver and support*
- knowledge and information about new and changed products and services from *design and transition*
- knowledge and information about third-party service components from *engage*.

The key outputs of this activity are:

- service components for *deliver and support*
- service components for *design and transition*
- knowledge and information about new and changed service components to all value chain activities
- contract and agreement requirements for *engage*
- performance information and improvement opportunities for *improve*.

4.5.6 Deliver and support



Key message

The purpose of the deliver and support value chain activity is to ensure that services are delivered and supported according to agreed specifications and stakeholders' expectations.

The key inputs to this activity are:

- new and changed products and services provided by *design and transition*
- service components provided by *obtain/build*
- improvement initiatives provided by *improve*
- improvement status reports from *improve*
- user support tasks provided by *engage*

- knowledge and information about new and changed service components and services from *design and transition*, and *obtain/build*
- knowledge and information about third-party service components from *engage*.

The key outputs of this activity are:

- services delivered to customers and users
- information on the completion of user support tasks for *engage*
- product and service performance information for *engage* and *improve*
- improvement opportunities for *improve*
- contract and agreement requirements for *engage*
- change requests for *obtain/build*
- service performance information for *design and transition*.

Further details on the service value chain activities can be found in other ITIL 4 publications and supplementary materials.

4.6 Continual improvement

Continual improvement takes place in all areas of the organization and at all levels, from strategic to operational. To maximize the effectiveness of services, each person who contributes to the provision of a service should keep continual improvement in mind, and should always be looking for opportunities to improve.

The continual improvement model applies to the SVS in its entirety, as well as to all of the organization's products, services, service components, and relationships. To support continual improvement at all levels, the ITIL SVS includes:

- the ITIL continual improvement model, which provides organizations with a structured approach to implementing improvements
- the *improve* service value chain activity, which embeds continual improvement into the value chain
- the continual improvement practice, supporting organizations in their day-to-day improvement efforts.

The ITIL continual improvement model can be used as a high-level guide to support improvement initiatives. Use of the model increases the likelihood that ITSM initiatives will be successful, puts a strong focus on customer value, and ensures that improvement efforts can be linked back to the organization's vision. The model supports an iterative approach to improvement, dividing work into manageable pieces with separate goals that can be achieved incrementally.

Figure 4.3 provides a high-level overview of the ITIL continual improvement model.

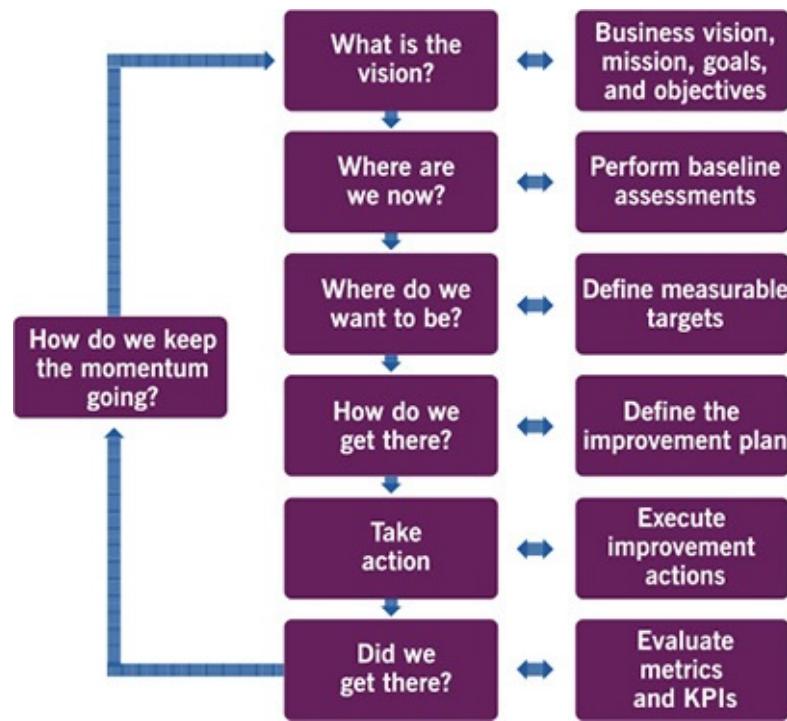


Figure 4.3 The continual improvement model

The ITIL story: Improving Axle

Henri would like Axle to become a greener company and introduce more environmentally friendly practices into its work. Over the following sections the Axle team uses the steps of the continual improvement model to implement changes to the organization.



Henri: At Axle we strive for continual improvement at all levels. One of our objectives is to be a greener business and incorporate sustainable principles into every business decision. My team is committed to this initiative. As part of our service relationship model, our partners and suppliers are also involved in this.

It is important to remember that the scope and details of each step of the model will vary significantly based on the subject and the type of improvement. It should be recognized that this model can serve as a workflow, but it can also be used simply as a high-level reminder of a sound thought process to ensure improvements are properly managed. The flow seeks to ensure that improvements are linked to the organization's goals and are properly prioritized, and that improvement actions produce sustainable results.

Logic and common sense should always prevail when using the continual improvement model. The steps of this model do not need to be carried out in a

linear fashion, and it may be necessary to re-evaluate and return to a previous step at some point. Critical judgement should always be applied when using this model.

4.6.1 Steps of the continual improvement model

This section provides more detail on each step of the continual improvement model. An organization can adjust these steps to its culture and goals. The model is simple and flexible, and can just as easily be used in an Agile culture as in a more traditional waterfall culture.

4.6.4.1 Step 1: What is the vision?



Key message

Each improvement initiative should support the organization's goals and objectives. The first step of the continual improvement model is to define the vision of the initiative. This provides context for all subsequent decisions and links individual actions to the organization's vision for the future.

This step focuses on two key areas:

- The organization's vision and objectives need to be translated for the specific business unit, department, team, and/or individual, so that the context, objectives, and boundaries for any improvement initiative are understood.
- A high-level vision for the planned improvement needs to be created.

The work within this step should ensure that:

- the high-level direction has been understood
- the planned improvement initiative is described and understood in that context
- the stakeholders and their roles have been understood
- the expected value to be realized is understood and agreed
- the role of the person or team responsible for carrying out the improvement is clear in relation to achieving the organization's vision.

If this step is skipped, improvements might only be optimized for the people or teams involved rather than the whole organization, or non-value-adding activities might become the sole focus of improvements.

The ITIL story: What is the vision?



Henri: Axle's vision is for the business to become one of the top three green car-hire companies globally. A continual improvement initiative called Axle Green was created for this purpose.



Craig: As a supplier of cleaning services to Axle, I'll support them in this improvement initiative.

4.6.1.2 Step 2: Where are we now?



Key message

The success of an improvement initiative depends on a clear and accurate understanding of the starting point and the impact of the initiative. An improvement can be thought of as a journey from Point A to Point B, and this step clearly defines what Point A looks like. A journey cannot be mapped out if the starting point is not known.

A key element in this step is a current state assessment. This is an assessment of existing services, including the users' perception of value received, people's competencies and skills, the processes and procedures involved, and/or the capabilities of the available technological solutions. The organization's culture, i.e. the prevailing values and attitudes across all stakeholder groups, also needs to be understood to decide what level of organizational change management is required.

Current state assessments should be done through objective measurement whenever possible. This will allow for an accurate understanding of the issues associated with the current state and, once the initiative is implemented, enable proper measurement of the level of improvement achieved by comparison with the initial state. If a good measurement system is in place, the information to fulfil this step may already have been provided when the proposed improvement was initially documented.

If this step is skipped, the current state will not be understood and there will not be an objective baseline measurement. It will therefore be difficult to track and measure the effectiveness of the improvement activities, as the new state cannot

be compared with a previous state at a later point.

The ITIL story: Where are we now?



Su: *We need to understand the baseline. How do we know if we've improved, if we don't know where we started? Currently, only 5 per cent of the vehicles in our fleet are electric.*



Craig: *Only 20 per cent of my cleaning products are biodegradable.*

4.6.1.3 Step 3: Where do we want to be?



Key message

Just as the previous step (Step 2) describes Point A on the improvement journey, Step 3 outlines what Point B, the target state for the next step of the journey, should look like. A journey cannot be mapped out if the destination is not clear.

Based on the results of the first two steps, a gap analysis can be performed, which evaluates the scope and nature of the distance to be travelled from the starting point to the achievement of the initiative's vision. It is important to note that the initial vision of the initiative is aspirational and may never be achieved in full. Improvement is the goal, not perfection. This step should define one or more prioritized actions along the way to completing the vision for the improvement, based on what is known at the starting point. Improvement opportunities can be identified and prioritized based on the gap analysis, and improvement objectives can be set, along with critical success factors (CSFs) and key performance indicators (KPIs).

The agreed objectives, CSFs, and KPIs need to follow what is known as the SMART principle. They should be specific, measurable, achievable, relevant, and time-bound. It is much easier to define the route of the improvement journey if the exact destination is known. It is important to note that the target state represents progress towards the vision, not the achievement of the entire vision.

If this step is skipped, the target state will remain unclear. It will be difficult to prepare a satisfactory explanation of what key stakeholders stand to gain from the improvement initiative, which may result in low support or even pushback.

The ITIL story: Where do we want to be?



Su: *Within five years, we want 50 per cent of our fleet to consist of electric vehicles. The other half should comply with the strictest ecological requirements for petrol and diesel cars.*



Craig: *One of my targets is that 90 per cent of my cleaning products will be biodegradable within the next two years.*



Radhika: *This is a great initiative. In our IT team, we want to use biodegradable cups. We would also like Axle to use environmentally friendly light bulbs in all our offices.*

4.6.1.4 Step 4: How do we get there?

Now that the start and end points of the improvement journey have been defined, a specific route can be agreed. Based on the understanding of the vision of the improvement and the current and target states, and combining that knowledge with subject matter expertise, a plan for addressing the challenges of the initiative can be created.



Key message

The plan for Step 4 can be a straightforward and direct route to completing a single simple improvement, or it may be more involved. The most effective approach to executing the improvement may not be clear, and it will sometimes be necessary to design experiments that will test which options have the most potential.

Even if the path to follow is clear, it may be most effective to carry out the work in a series of iterations, each of which will move the improvement forward part of the way. With each iteration, there is an opportunity to check progress, re-evaluate the approach, and change direction if appropriate.

If this step is skipped, the execution of the improvement is likely to flounder and fail to achieve what is required of it. Failed improvements erode confidence and can make it difficult to get support for future improvements.

The ITIL story: How do we get there?



Craig: *My plan is to replace our current stocks of cleaning products with biodegradable options as we run out. Meanwhile, we'll test new products to find the optimal balance of price and quality.*



Su: *Sometimes knowing how you get there is easy, but replacing half of our fleet with electric cars is a bigger challenge. We don't want excess cars in our car lots if they're not being used. We must also consider specifics and infrastructure in different countries, as well as local regulations.*



Radhika: *We're encouraging the use of ceramic cups over plastic ones. We're discontinuing the purchase of plastic cups, and we are buying ceramic cups for all our offices.*

4.6.1.5 Step 5: Take action



Key message

In Step 5 the plan for the improvement is acted upon. This could involve a traditional waterfall-style approach, but it could be more appropriate to follow an Agile approach by experimenting, iterating, changing directions, or even going back to previous steps.

Some improvements take place as part of a big initiative that makes a lot of change, whereas other improvements are small but significant. In some cases, a larger change is effected through the implementation of multiple smaller improvement iterations. Even if the path to complete the improvement seemed clear when it was planned, it is important to remain open to change throughout the approach. Achieving the desired results is the objective, not rigid adherence to one view of how to proceed.

During the improvement, there needs to be continual focus on measuring progress towards the vision and managing risks, as well as ensuring visibility and overall awareness of the initiative. ITIL practices such as organizational change management (section 5.1.6), measurement and reporting (section 5.1.5), risk management (section 5.1.10) and, of course, continual improvement (section 5.1.2) are important factors in achieving success in this step.

Once this step is completed, the work will be at the end point of the journey, resulting in a new current state.

The ITIL story: Take action



Craig: *We have started to replace our stocks of cleaning products with biodegradable options. We've found some great new products to use, and even managed to save money by using cheaper alternatives that don't compromise on quality.*



Su: *We have started to phase out some of our older petrol and diesel cars and replace them with new electric models. We have carried out a thorough check of the petrol and diesel cars we are keeping to ensure they meet ecological requirements, and will take action to fix this where they do not.*



Radhika: *We have brought the new biodegradable cups and environmentally friendly light bulbs into our offices and started to remove the plastic cups.*

4.6.1.6 Step 6: Did we get there?

This step involves checking the destination of the journey to be sure that the desired point has been reached.



Key message

Too often, once an improvement plan is set in motion, it is assumed that the expected benefits have been achieved, and that attention can be redirected to the next initiative. In reality, the path to improvement is filled with various obstacles, so success must be validated.

For each iteration of the improvement initiative, both the progress (have the original objectives been achieved?) and the value (are those objectives still relevant?) need to be checked and confirmed. If the desired result has not been achieved, additional actions to complete the work are selected and undertaken, commonly resulting in a new iteration.

If this step is skipped, it is hard to be sure whether the desired or promised outcomes were actually achieved, and any lessons from this iteration, which would support a course correction if needed, will be lost.

The ITIL story: Did we get there?



Craig: *After a few months we managed to hit our target of having 90 per cent of our products being biodegradable.*



Su: *The electric cars are being introduced, but for logistical reasons it is proving more difficult to replace the petrol and diesel cars than we had anticipated. We will need to do this at a faster pace if we want to hit our five-year target. We may now have to reconsider our target, and decide whether we should do more to support it, or if it needs to be revised.*



Radhika: *Our offices now have biodegradable cups and environmentally friendly light bulbs. Some of the old plastic cups are still being used, but we have stopped purchasing more, so once they run out they'll be gone.*

4.6.1.7 Step 7: How do we keep the momentum going?



Key message

If the improvement has delivered the expected value, the focus of the initiative should shift to marketing these successes and reinforcing any new methods introduced. This is to ensure that the progress made will not be lost and to build support and momentum for the next improvements.

The organizational change management and knowledge management practices should be used to embed the changes in the organization and ensure that the improvements and changed behaviours are not at risk of reversion. Leaders and

managers should help their teams to truly integrate new work methods into their daily work and institutionalize new behaviours.

If the expected results of the improvement were not achieved, stakeholders need to be informed of the reasons for the failure of the initiative. This requires a thorough analysis of the improvement, documenting and communicating the lessons learned. This should include a description of what can be done differently in the next iteration, based on the experience gathered. Transparency is important for future efforts, regardless of the results of the current iteration.

If this step is skipped, then it is likely that improvements will remain isolated and independent initiatives, and any progress made may be lost over time. It may also be difficult to get support for future improvements, and embed continual improvement in the organization's culture.

The ITIL story: How do we keep the momentum going?



Craig: Now that we have hit our target we will monitor any new products we buy to ensure that they meet our standards of being biodegradable. We will also be on the lookout for any opportunities to replace our remaining non-biodegradable products with more environmentally friendly alternatives.



Su: We've made a great start on adding new electric vehicles to the Axle fleet, but haven't hit our targets yet. Now we need to analyse what has prevented us from reaching our objectives, record what lessons we have learned, and decide what can be done differently in the future to make the introduction of electric cars more effective.



Radhika: We will continue to buy ceramic cups and environmentally friendly light bulbs for our offices. We will also consider further ways to make our offices greener, and run campaigns with staff members to encourage them to become more environmentally aware.

4.6.2 Continual improvement and the guiding principles

Following the continual improvement model, an organization may significantly benefit from applying the ITIL guiding principles. All the principles are applicable and relevant at every step of an improvement initiative. However, some of the guiding principles are especially relevant to specific steps of the continual improvement model. Following these principles at every step of an improvement increases the chances for success of the steps and the overall improvement initiative. Table 4.2 outlines to which steps of the continual improvement model each of the guiding principles is particularly relevant, although all principles are applicable to all steps at some level.

Continual improvement is not only an integral part of Lean, but also Agile (retrospectives), DevOps (continual experimentation and learning, and mastery), and other frameworks. It is one of the key components of the ITIL SVS, providing, along with the guiding principles, a solid platform for successful service management.

Table 4.2 The steps of the continual improvement model linked to the most relevant ITIL guiding principles

	Focus on value	Start where you are	Progress iteratively with feedback	Collaborate and promote visibility	Think and work holistically	Keep it simple and practical	Optimize and automate
What is the vision?	✓	✓	✓	✓	✓	✓	✓
Where are we now?	✓	✓	✓	✓	✓	✓	✓
Where do we want to be?	✓	✓	✓	✓	✓	✓	✓
How do we get there?	✓	✓	✓	✓	✓	✓	✓
Take action	✓	✓	✓	✓	✓	✓	✓
Did we get there?	✓	✓	✓	✓	✓	✓	✓
How do we keep the momentum going?	✓	✓	✓	✓	✓	✓	✓

Continual improvement and the theory of constraints

In an increasingly dynamic business environment, an enterprise's ability to change quickly, whether in response to external factors or to disrupt the market, can make the difference between failure and success.

When planning improvements, it is crucial to focus on the work that is the highest priority. According to the theory of constraints (ToC), the weakest link in the value chain determines the flow and throughput of the system. The weakest link must be elevated as much as possible (sometimes revealing a new weakest link), and all the other steps in the value chain must be organized around it.

The weakest link of a value stream can be determined with value stream mapping. This is a Lean practice that examines the stream, quantifies its waste (for example, a delay), and in so doing, identifies its weakest link. If the weakest link is the development of information systems, then the application of Agile principles and practices can improve the quality of, and the speed with which, functionality is developed. This includes the critical interaction between business and IT in which the required functionality is defined alongside the non-functional requirements. The ITIL 4 practices that help with this include, among others, software development and management, business analysis, and relationship management.

If the weakest link is the speed and reliability of deployment, then using DevOps principles, technical practices and tools can make a significant difference. The ITIL 4 practices that are relevant to this include deployment

management, release management, and organizational change management.

Finally, if the weakest link is the delivery and support of IT services, then IT operations practices and tools can be used, such as the ITIL 4 practices of incident management, problem management, service desk, and infrastructure and platform management.

4.7 Practices

A practice is a set of organizational resources designed for performing work or accomplishing an objective. These resources are grouped into the four dimensions of service management (see Chapter 3). The ITIL SVS includes general management, service management, and technical management practices, as described in Chapter 5.

4.8 Summary

The ITIL SVS describes how all the components and activities of the organization work together as a system to enable value creation. Each organization's SVS has interfaces with other organizations, forming an ecosystem that facilitates value creation for the organizations, their customers, and other stakeholders.

The ITIL SVS is a powerful holistic construct for the governance and management of modern products and services that enables organizations to co-create value with consumers. The SVS includes the service value chain activities supported by universal and holistic practices that allow the organization to manage demands of all types. These range from strategic demands that enable the organization to thrive in a competitive landscape, to operational requests for information, services, or support. Every organization participates in some form of the value chain activities described here, even when many of them are performed by suppliers and partners. ITIL 4 guidance can be adapted and adopted to facilitate value, feedback, and continual improvement across the SVS.